(19) World Intellectual Property Organization International Bureau



I TREAT CONTROL IN TICONE MAIN COME COME CON THE REAL COME COME COME CONTROL CONTROL CONTROL CONTROL CONTROL CO

(43) International Publication Date 12 January 2006 (12.01.2006)

(10) International Publication Number WO 2006/004303 A1

(51) International Patent Classification⁷:

H04N 7/015

(21) International Application Number:

PCT/KR2005/000966

(22) International Filing Date:

1 April 2005 (01.04.2005)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data:

10-2004-0022688 1 10-2004-0064306 16 A

1 April 2004 (01.04.2004) KF 16 August 2004 (16.08.2004) KF

(71) Applicant (for all designated States except US): ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejon 305-350 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KIM, Sung-Hoon [KR/KR]; #230-304, Galma Apt., Galma-dong, Seo-gu, Daejeon 302-170 (KR). JI, Kum-Ran [KR/KR]; 167, Manyeon-ri, Hwasun-eup, Hwasun-gun, Jeollanam-do 519-806 (KR). LEE, Jae-Young [KR/KR]; #514-201, Jugong Apt., Jamsil 5-dong, Songpa-gu, Seoul 138-916 (KR). KIM, Seung-Won [KR/KR]; #105-202, Gukhwadongsung Apt., Samcheon-dong, Seo-gu, Daejeon 302-782 (KR). LEE, Soo-In [KR/KR]; #106-606, Clover Apt.,

Dunsan-dong, Seo-gu, Daejeon 302-772 (KR). AHN, Chieteuk [KR/KR]; #208-603, Expo Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-761 (KR).

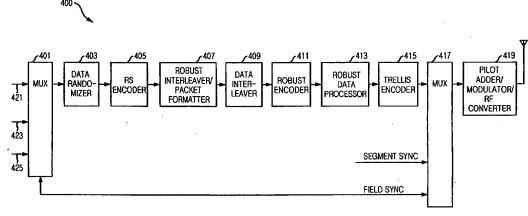
- (74) Agent: SHINSUNG PATENT FIRM; 2-3F, Line Bldg., 823-30, Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: DIGITAL TELEVISION TRANSMITTER AND RECEIVER FOR USING 16 STATE TRELLIS CODING



(57) Abstract: Provided are a Vestigial Side Band (VSB) Digital Television (DTV) transmitter and receiver based on the Advanced Television System Committee (ATSC) A/53, and a method thereof. The present invention provides 8-VSB DTV transmitter and receiver that can improve reception performance of the receiver by transmitting and double streams formed of normal data and robust data without increasing an average power level, regardless of the ratio of the normal data and robust data, by including an encoding unit for performing 16-state trellis coding on the robust data when a data stream includes robust data, and a method thereof.

2006/00/303 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.